METHOD AND SYSTEM FOR ANALYZING FAULT AND QUANTIZED OPERATIONAL DATA FOR AUTOMATED DIAGNOSTICS OF LOCOMOTIVES

Abstract of Disclosure

Method and system for processing fault log data from a machine comprising a plurality of respective pieces of equipment are provided. Operational parameter data indicative of operational and/or environmental conditions for the respective pieces of equipment is further processed. The method allows collecting fault log data comprising a plurality of faults from any malfunctioning piece of equipment. The method further allows collecting operational parameter data relatable to each respective time of occurrence of the plurality of faults from the malfunctioning equipment. Respective identifying actions allow identifying a plurality of distinct faults in the fault log data and a plurality of data buckets indicative of respective levels of quantization of each operational parameter. At least one distinct fault cluster is generated from the plurality of distinct faults. Each generated fault cluster is related a respective quantization level of at least one operational parameter to provide at least one fault cluster that may be configurable in at least one of the following cluster configurations: a stand–alone fault cluster configuration and a cluster configuration enhanced with quantized operational parameter data. A plurality of weighted repair and distinct fault cluster combinations enhanceable with quantized operational parameter data is generated. At least one repair for the at least one fault cluster enhanceable with quantized operational parameter data is generated using the plurality of weighted repair and distinct fault cluster combinations enhanceable with quantized operational parameter data.

Figures